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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,822	06/26/2001	William Stutz	2006579-0419	2651
24280	7590	03/15/2006	EXAMINER	
CHOATE, HALL & STEWART LLP TWO INTERNATIONAL PLACE BOSTON, MA 02110			COULTER, KENNETH R	
			ART UNIT	PAPER NUMBER
			2141	

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/891,822	Applicant(s) STUTZ ET AL.	
	Examiner Kenneth R. Coulter	Art Unit 2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2005 (pre-appeal conf. req.).
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-3 and 6-8 is/are rejected.
 7) ☒ Claim(s) 4 and 5 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 26 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 7, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Shabtay et al. (U.S. Pat. Pub. No. 2002/0120743 A1) (Splicing Persistent Connections).

2.1 Regarding claim 1, Shabtay discloses an apparatus for load balanced and fault tolerant aggregation and display of information, said apparatus comprising:

a first web server receiving a transaction, said transaction comprising a first and second request (Fig. 1, item 24; Abstract; paragraphs 9, 25);

a first and second agent server (Fig. 1, items 22; paragraph 32); and

a load-balancing module (Fig. 1, item 24; Abstract);

wherein the first web server assigns the first request to one of the agent servers responsive to said load-balancing module and assigns the second request to the other one of the agent servers responsive to the load-balancing module (Figs. 1, 2; paragraph

9 “the **load balancer selects a server** to service the new request, **not necessarily the same server** as serviced the previous request.”; paragraph 25 “a method of connecting a client to a server by a load balancer associated with a plurality of servers, including **establishing a first TCP connection** between the load balancer and the client, receiving a plurality of HTTP requests on the first connection, selecting a server to service each of the HTTP requests ...”).

2.2 Regarding claim 7, Shabtay discloses the apparatus of claim 1 further comprising a communications module in communications with said first web server, said communications module in communication with a network (Fig. 1; paragraphs 1, 9).

2.3 Per claim 8, Shabtay teaches a method for load-balanced and fault tolerant aggregation and display of information in an apparatus comprising a web server, a first agent server, a second agent server, and a load-balancing module, said method comprising the steps of:

(a) receiving, by a web server, a transaction having a first and a second request (Fig. 1, item 24; Abstract; paragraphs 9, 25);

(b) assigning, by said web server, said first request to one of a first agent server and a second agent server responsive to a load-balancing module (Figs. 1, 2; paragraph 9 “the **load balancer selects a server** to service the new request, **not necessarily the same server** as serviced the previous request.”; paragraph 25 “a method of connecting a client to a server by a load balancer associated with a plurality

Art Unit: 2141

of servers, including **establishing a first TCP connection** between the load balancer and the client, receiving a plurality of HTTP requests on the first connection, selecting a server to service each of the HTTP requests ..."); and

(c) assigning, by said web server, said second request to the other one of said first agent server and said second agent server responsive to said load-balancing module (Figs. 1, 2; paragraphs 9, 25).

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 – 3 and 6 – 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Brendel et al. (U.S. Pat. No. 5,774,660) (World-Wide-Web Server With Delayed Resource-Binding for Resource-Based Load Balancing on a distributed Resource Multi-node Network)

4.1 Regarding claim 1, Brendel discloses an apparatus for load balanced and fault tolerant aggregation and display of information, said apparatus comprising:

a first web server receiving a transaction, said transaction comprising a first and second request (Abstract; Figs. 6, 8, 10, 11A, 11B, 19; col. 12, lines 7 – 37 "the load

balancer sets up a **session** with the browser ...” “Based on the requested resource, and the location of each resource in the web site, the load balancer determines which servers can serve the request, and then **chooses the least busy of these servers** as the assigned server.”; col. 19, lines 48 – 63 “Request-level load-balancer granularity”);

a first and second agent server (Abstract; Figs. 6, 8, 19 “SERVER” “SERVER FARM”; col. 2, lines 7 – 37); and

a load-balancing module (Abstract; Figs. 6, 8, 19 “load balancer”; col. 12, lines 7 – 37 “load balancer”);

wherein the first web server assigns the first request to one of the agent servers responsive to said load-balancing module and assigns the second request to the other one of the agent servers responsive to the load-balancing module (Abstract; Figs. 10, 11A, 11B; col. 12, lines 7 – 37 “the load balancer sets up a **session** with the browser ...” “Based on the requested resource, and the location of each resource in the web site, the load balancer determines which servers can serve the request, and then **chooses the least busy of these servers** as the assigned server.”; col. 19, lines 48 – 63 “Request-level load-balancer granularity”).

4.2 Per claim 2, Brendel teaches the apparatus of claim 1 further comprising a state server connected to at least one of said first and second agent servers and providing persistent storage for information (col. 12, lines 38 – 45).

4.3 Regarding claim 3, Brendel discloses the apparatus of claim 2 wherein said state

Art Unit: 2141

server comprises a relational database (Figs. 8, 10; col. 10, line 38 – col. 11, line 2; col. 11, line 50 – col. 12, line 5).

4.4 Per claim 6, Brendel teaches the apparatus of claim 1 wherein each agent server comprises a dispatcher for instantiating at least one of an assimilation agent and an integration server (Figs. 8, 10; col. 10, line 38 – col. 11, line 2; col. 11, line 50 – col. 12, line 5).

4.5 Regarding claim 7, Brendel discloses the apparatus of claim 1 further comprising a communications module in communications with said first web server, said communications module in communication with a network (Abstract; Figs. 6, 8, 19).

4.6 Per claim 8, Brendel teaches a method for load-balanced and fault tolerant aggregation and display of information in an apparatus comprising a web server, a first agent server, a second agent server, and a load-balancing module, said method comprising the steps of:

(a) receiving, by a web server, a transaction having a first and a second request (Abstract; Figs. 6, 8, 10, 11A, 11B, 19; col. 12, lines 7 – 37 “the load balancer sets up a **session** with the browser ...” “Based on the requested resource, and the location of each resource in the web site, the load balancer determines which servers can serve the request, and then **chooses the least busy of these servers** as the assigned server.”; col. 19, lines 48 – 63 “Request-level load-balancer granularity”);

(b) assigning, by said web server, said first request to one of a first agent server and a second agent server responsive to a load-balancing module (Abstract; Figs. 10, 11A, 11B; col. 12, lines 7 – 37 “the load balancer sets up a **session** with the browser ...” “Based on the requested resource, and the location of each resource in the web site, the load balancer determines which servers can serve the request, and then **chooses the least busy of these servers** as the assigned server.”; col. 19, lines 48 – 63 “Request-level load-balancer granularity”); and

(c) assigning, by said web server, said second request to the other one of said first agent server and said second agent server responsive to said load-balancing module (Abstract; Figs. 10, 11A, 11B; col. 12, lines 7 - 37).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1 – 3 and 6 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shapiro et al. (U.S. Pat. Pub. No. 2002/0120787) (System and Method for Accessing Functionality of a Backend System from an Application Server) in view of Shabtay et al. (U.S. Pat. Pub. No. 2002/0120743 A1).

6.1 Regarding claim 1, Shapiro discloses an apparatus for load balanced and fault tolerant aggregation and display of information, said apparatus comprising:

a first web server receiving a first and second request (Fig. 2B, item 104; Abstract; p. 5, paragraph 64 “the **web server** may select an application server to which to **broker the request**, e.g., using load balancing techniques.”);

a first and second agent server (Fig. 2B, items 108A, 108B; Fig. 3; Fig. 4, items 230, 220, 222, and 224; p. 5, paragraph 65 “Each application server may interface with various types of other servers or systems.”; p. 6, paragraph 74; p. 6, paragraphs 82 - 84); and

a load-balancing module (Fig. 4, item 240 “Load Balancer”; p. 5, paragraph 64 “the web server may select an application server to which to **broker the request**, e.g., using **load balancing** techniques.”);

Art Unit: 2141

wherein the first web server assigns the first request to one of the agent servers responsive to said load-balancing module and assigns the second request to the other one of the agent servers responsive to the load-balancing module (Fig. 2B, item 104; Abstract; p. 5, paragraph 64 “the **web server** may select an application server to which to **broker the request**, e.g., using load balancing techniques.”);

However, Shapiro does not explicitly disclose a first web server receiving a **transaction**, said **transaction** comprising a first and second request.

Shapiro does teach that the “client computer 100 may use a network connection for communicating with a web server 104 via a network 102” (paragraph 63) and utilizing “TCP-based protocols ... to communicate over the network 102.”

Shabtay discloses establishing a TCP connection between load balancer and client; and allowing a plurality of HTTP requests on the connection, wherein the load balancer selects a server to service each request individually (paragraphs 9, 25).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the plural HTTP requests per connection feature of Shabtay because a request-level load-balancer granularity adds the benefit of fewer users experiencing a browser lock-up when a server at the web site fails.

6.2 Per claim 2, Shapiro teaches the apparatus of claim 1 further comprising a state server connected to at least one of said first and second agent servers and providing persistent storage for information (Fig. 2B, items 108A, 108B, 110, 112; Fig. 4; p. 5, paragraph 65 “Each application server may interface with various types of other servers or systems.”; paragraphs 41, 80, 81, 91, 107, 108, and 109).

6.3 Regarding claim 3, Shapiro discloses the apparatus of claim 2 wherein said state server comprises a relational database (Fig. 2B, item 110; paragraphs 41, 91, 107, 108, and 109).

6.4 Per claim 6, Shapiro teaches the apparatus of claim 1 wherein each agent server comprises a dispatcher for instantiating at least one of an assimilation agent and an integration server (Figs. 3, 4).

6.5 Regarding claim 7, Shapiro discloses the apparatus of claim 1 further comprising a communications module in communications with said first web server, said communications module in communication with a network (Figs. 2B, 3).

6.6 Per claim 8, Shapiro teaches a method for load-balanced and fault tolerant aggregation and display of information in an apparatus comprising a web server, a first

Art Unit: 2141

agent server, a second agent server, and a load-balancing module, said method comprising the steps of:

(a) receiving, by a web server, a first and a second request (p. 5, paragraph 64 “the **web server** may select an application server to which to **broker the request**, e.g., using load balancing techniques.”);

(b) assigning, by said web server, said first request to one of a first agent server and a second agent server responsive to a load-balancing module (Fig. 4, item 240 “Load Balancer”; p. 5, paragraph 64 “the **web server** may select an application server to which to **broker the request**, e.g., using **load balancing** techniques.”); and

(c) assigning, by said web server, said second request to the other one of said first agent server and said second agent server responsive to said load-balancing module (Fig. 2B, item 104; Abstract; p. 5, paragraph 64 “the **web server** may select an application server to which to **broker the request**, e.g., using load balancing techniques.”);

However, Shapiro does not explicitly disclose receiving, by a web server, a **transaction** having a first and a second request

Shapiro does teach that the “client computer 100 may use a network connection for communicating with a web server 104 via a network 102” (paragraph 63) and utilizing “TCP-based protocols ... to communicate over the network 102.”

Art Unit: 2141

Shabtay discloses establishing a TCP connection between load balancer and client; and allowing a plurality of HTTP requests on the connection, wherein the load balancer selects a server to service each request individually (paragraphs 9, 25).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the plural HTTP requests per connection feature of Shabtay because a request-level load-balancer granularity adds the benefit of fewer users experiencing a browser lock-up when a server at the web site fails.

Response to Arguments

7. Applicant's arguments with respect to claims 1 – 3 and 6 – 8 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

8. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

REASONS FOR ALLOWANCE

9. The following is an examiner's statement of reasons for allowance:

The prior art of record does not specifically disclose or remotely suggest

With regard to claim 4:

A second web server, wherein one of said first and second agent servers sends a **first request to one of the web servers responsive to said load-balancing module** and sends a **second request to the other one of the web servers responsive to said load-balancing module**.

10. These limitations, in conjunction with the other limitations in the corresponding independent claim 1, are not specifically disclosed or remotely suggested in the prior art of record.

A review of claims 4 and 5, in view of the Examiner's arguments above, indicates that claims 4 and 5 are allowable over the prior art of record.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bhaskaran et al. U.S. Pat. No. 6,601,084 Dynamic Load Balancer for Multiple Network Servers

Art Unit: 2141

A system that load balances requests from clients between multiple servers. Data requests from clients are separated into a plurality of buckets. The buckets are assigned to a server based on server loading. The system also utilizes the server "credit" system.

Zisapel et al. U.S. Pat. No. 6,249,801 Load Balancing

A system of load balancing client requests among plural network servers.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth R. Coulter whose telephone number is 571 272-3879. The examiner can normally be reached on 5 4 9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KENNETH R. COULTER
PRIMARY EXAMINER


krc